

Digital Transformations of Financial Relations in Russia In 2022-2023: Problems and Global Trends

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Abstract: Assessment of changes in the system of economic relations in the digital economy through the use of systemic, economic analyzes, which ensures the integrity and comprehensiveness of the study. It has been established that increasing the role of the knowledge economy of transformations is an urgent task in modern transformations of societies. Identified problems in financial relations during digital transformations, consisting in the lack of an integrated approach to managing economic processes; reduction of state control with the rapid development of horizontal links between business entities. The conditions for the use of intellectual potential are considered in detail.

Keywords: financial relations, digital transformations, knowledge economy.

Introduction

The current stage of human development is characterized as the stage of formation of a society based on knowledge and using large amounts of information. Changing the system of economic relations creates a generalized effect of moving towards a society of a fundamentally new quality. These changes directly affect the formation of value chains. Under these conditions, the development of the creative nature of labor contributes to the growth of the potential of human individuality. Intellectual labor makes it possible to avoid such negative phenomena as pollution of nature with industrial waste; depletion of non-renewable natural resources. The transition to fully automated technologies causes a number of qualitative changes, including the transformation of science into a direct productive force. Labor plays a decisive role in creating the value of goods. The formation of the modern information society to a large extent changes the nature of work.

PROBLEMS OF FINANCIAL RELATIONS DURING DIGITAL TRANSFORMATIONS.

The present stage of development of society is characterized by objective factors of the growth of intellectual labor: an increase in the educational level of personnel; accumulation of experience in dynamic conditions; complication of the nature of the work functions performed in the implementation of digital operations.

The digital economy acts as a strategist by deepening their differences (Table 1).

Table 1

Differences between intellectual and traditional resources

Resources classified as traditional	Resources classified as smart tools
<i>Material flows</i>	<i>Intangible flows</i>
Decreases with use	Increase with use
Limited	Unlimited
Reproducible at significant cost	Reproducible at low cost
Outgoing marginal utility	Growing marginal utility

Source: compiled by the author

In the current economic conditions, intellectual work is of key importance in the development of financial relations, in which intellectual capital acts as the main resource of companies.

The methodology for assessing intellectual capital: in the form of a balanced scorecard was created by R. Kaplan and D. Norton [1], in which you consider the company's activities from four important positions:

- clients;
- internal business processes;
- training and development of personnel;
- finance (*Fig. 1*).

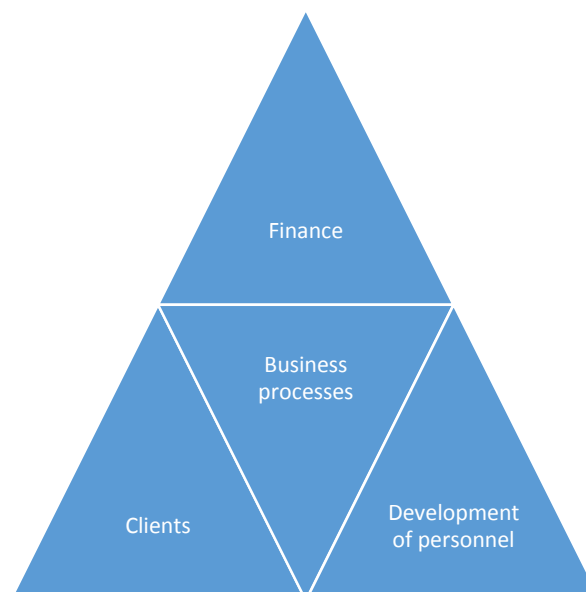


Figure 1. Balanced scorecard of R. Kaplan and D. Norton

In the development of scientists, an integrated approach to managing the value of a company was used based on the financial, marketing, production and intellectual aspects, which indicates an undoubted connection between these components. If the synergistic effect of these components is not taken into account, inadequate conclusions can be drawn about the effectiveness

of the use of each resource.

Despite the fact that investments in the development of science contribute to the development of digital economies, playing a decisive role in their transformation into new products, they are insufficiently funded by the states¹.

Common problems of financial relations arising from digital transformations are:

- Lack of an integrated approach to managing economic processes during digital transformations;
- Insufficiently objective consideration of differences between intellectual and traditional resources;
- Backlog of the educational level of personnel in the modern requirements of digitalization of the economy;
- Decrease in the possibilities of state control with the rapid development of horizontal links between business entities, which negatively affects the collection of taxes and fees;
- delay in the adoption of legislative and regulatory acts due to rapidly changing economic situations in practice caused by digital transformations;
- increasing risks of cyber attacks during various operations;
- low rates of adaptation of company employees to the use of new tools in digital processes;
- reducing the number of jobs, increasing unemployment when replacing a person with digital devices;
- complication of control systems for various processes in the mechanism of digital technologies;
- increased impact on intellectual capital of obsolescence (Figure 2).

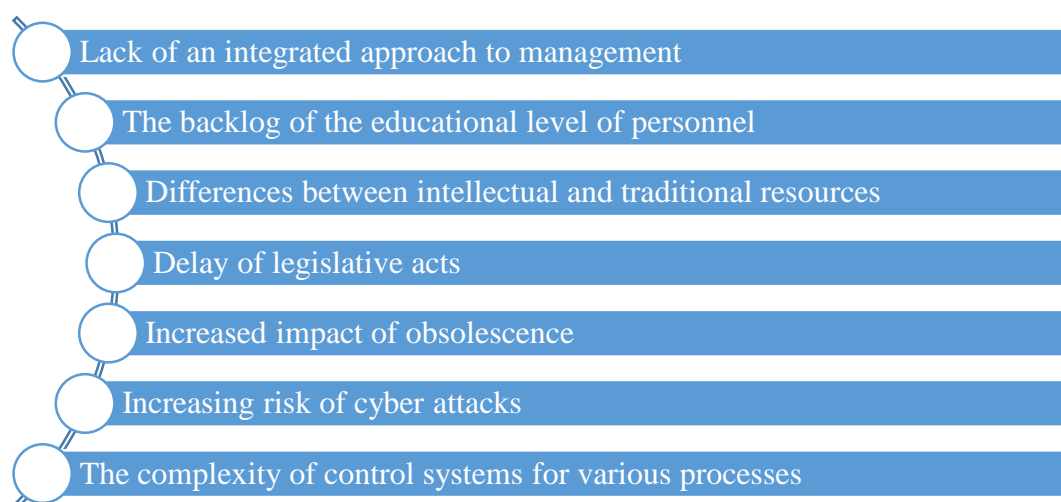


Figure 2. Problems of financial relations during digital transformations

CONDITIONS FOR THE USE OF INTELLECTUAL POTENTIAL.

The formation of a sound innovation policy allows companies to ensure their sustainable development and improve performance. To implement such a policy, it is necessary to form a concept of innovation management, including methods of financing in conjunction with technological and personnel factors, taking into account the fulfillment of a number of conditions:

¹ The Strategy for the Development of the Information Society in the Russian Federation for 2017-2030, approved by Decree of the President of the Russian Federation of May 9, 2017 No. 203.

- compliance of the company's environment with the formed financial conditions;
- clarity and clarity of digital transformations for perception by all employees of the company;
- motivation of the company's employees through material and moral incentives to appropriate changes;
- ensuring the effectiveness of financing the company's innovative activities in strict accordance with a systematic approach that defines the goal, objectives, and possible results.

The conceptual approach to digital transformations is the basis for developing the strategy and tactics of the company's financial policy and provides:

- stability of financing of innovative activity;
- balance of financial relations
- reducing the risks of using innovative technologies, products;
- cost reduction in production;
- increasing the financial efficiency of innovation activity.

The set of activities carried out by the company as part of the financing of innovative activities provides for the implementation of strategic and tactical actions. Strategic measures are designed for a long-term implementation. Tactical measures are carried out in the current period of activity and are formed within the framework of strategic directions.

The volume of strategic investments is determined as follows:

$$IC \geq IC_1 + IC_2 + IC_3 + IC_4,$$

where *IC* is the volume of strategic investments;

*IC*₁ — allocated volume of investments in the creation of the first stage product (the utility of the product, the functions of the product);

*IC*₂ — allocated volume of investments in the creation of goods of the second stage (appearance, packaging of goods);

*IC*₃ — allocated volume of investments in the creation of goods of the third stage (terms of delivery, after-sales service);

*IC*₄ — highlighting the amount of investment in the creation of goods of the fourth stage (harmlessness and utilization of goods).

When pursuing a financing policy, it is necessary to take into account technological opportunities and ensure the compatibility of innovative projects in view of the fact that the above factors affect the amount of costs associated with the implementation of the project.

INSTITUTIONAL FINANCIAL SUPPORT OF INNOVATIVE DEVELOPMENT.

In accordance with the Concept of long-term socio-economic development of the Russian Federation, in order to increase innovative development, it is necessary:

- creation of conditions for a multiple increase in the output of science-intensive products;
- substitution of imported products and transition on this basis to the stage of stable growth of innovative and active industrial production;
- ensuring sustainable growth rates of industrial production;

- ensuring positive structural shifts aimed at increasing the share of processing industries in the total volume of production and high-tech science-intensive products in the processing industries;
- consolidation of the competitive positions of domestic producers of innovative products and high technologies in the domestic and foreign markets².

To implement innovative development, technological platforms are being created on the basis of public-private partnership, which is defined in the Strategy for Innovative Development of Russia. With this approach, the technological platform acts as a mechanism for integrating the actions of business, science and the state in order to create new technologies, mobilize resources for innovative research. In Russia, the main initiator of scientific research is the state, which contributes to ensuring the connection between science and production. Financing of innovative developments is also carried out with state participation.

Unlike Russia, in European countries, innovation activity is financed by various financial institutions, such as the European Investment Bank, the European Regional Development Fund, the European Social Fund. This level of investment makes it possible to eliminate disproportions in the development of companies of various types of economic activity in the European Union [3].

Investment in innovative projects related to digitalization is carried out in our country, as a rule, with the participation of the state in the form of budget allocations (grants and federal targeted programs).

Financing within the framework of federal targeted programs is realized at the following stages: creation of new knowledge, preparation of new technologies, introduction of new technologies into production, establishment of appropriate research institutes. Funding for research under federal target programs is carried out on a competitive basis. It should be noted that there is an insufficiently developed mechanism for interconnecting programs for financing innovation activities in various institutions. Most of the technological platforms operating in Russia receive funding from the state, which makes it possible to ensure the relationship between science and business. A similar problem is solved by innovation and investment clusters.

INTEGRATED APPROACH TO THE DEVELOPMENT OF INTELLECTUAL POTENTIAL.

For the development of creative industries, the creation of infrastructure — creative clusters and business incubators — is of great importance. The presence of creative industries is closely tied to the creative class, but it does not appear just like that, since a special space needs to be created for it - infrastructure. The formation of innovation and investment clusters is expedient for creating a highly efficient national innovation system. Currently, spatial cooperation of companies can be carried out in the form of clusters, technology parks, technology platforms, industrial parks, and regional innovation systems. On a national scale, technological platforms and clusters are the most progressive form of spatial cooperation between companies. The cluster is an association of several companies on technological and territorial grounds. The purpose of the cluster is the implementation of joint goals, strategies, programs and projects of cooperating companies aimed at increasing their competitiveness.

The founder of the theory of clusters is M. Porter, who proved that among the main conditions that allow clusters to function effectively are:

- infrastructure consisting of human, natural and information resources, scientific and production potential, capital;

- domestic demand, including volume, direction and development;
- intra-industry competition.

The cluster has the following features:

- relatedness of technologies used in companies belonging to the same cluster;
- geographical proximity of companies to each other;
- active use of innovations and modern technologies, as well as participation in their development;
- common resource base.

On the part of the state, a policy is being pursued to stimulate the development of clusters and support the cluster initiative. Support for innovative territorial clusters contributes to an increase in their role in the country's economy, which makes it possible to increase the competitiveness of manufactured products, services rendered, and work performed due to high-tech economic activities (*Table 2*).

When analyzing the share of high-tech knowledge-intensive industries in the country's GDP, one should note a positive trend in the growth of scientific research and education.

Recently, innovation and investment clusters have been developing in many countries, thanks to which it becomes possible to produce innovative products using the developments of research institutes. The main advantage of such clusters is the presence of an investment structure system in their composition, which makes it possible to finance research and development and production. Investors in the implementation of innovative products return the invested funds and receive a profit corresponding to their share in the investment. Such cooperation is mutually beneficial for the cluster members, as it reduces the time to look for investors to finance developments and provides an opportunity for investors to receive increased profits. In such an interaction, an emergent effect occurs, i.e. the system has properties that are not inherent in its elements separately, which are formed as a result of interaction and differ from each component separately [4].

TRENDS IN FINANCIAL RELATIONS DURING DIGITAL TRANSFORMATIONS.

The formation of innovation and investment clusters contributes to the transition to digitalization and the release of competitive qualitatively new products through the mechanism of interaction between scientific institutions, investors and industrial companies. Through such clusters, innovations spread in related areas of production, improving the economic situation of the region, the country by changing economic relations.

To form the effective functioning of a cluster during digital transformation, a number of conditions must be met:

- the presence of interest of local structures in the formation of an innovation cluster;
- the presence on the territory of research institutes located to cooperate with cluster companies.

The share of high-tech knowledge-intensive industries in GDP, %

Types of economic activity	2009	2010	2011	2015	2018	2020
Aircraft manufacturing	0,3	0,3	0,3	0,3	0,3	0,3
Pharmaceutical production	0,1	0,2	0,2	0,2	0,2	0,3
Manufacture of office equipment and computer technology	0,03	0,04	0,04	0,04	0,04	0,04
Manufacture of electronic components, equipment for radio, television and communications	0,1	0,1	0,1	0,1	0,1	0,2
Manufacture of medical devices; measuring instruments, control, management and testing; optical instruments	0,3	0,3	0,3	0,4	0,5	0,6
Scientific research and development	1,2	1,3	1,2	1,8	2,0	2,1
Education	2,9	2,6	2,5	2,8	3,2	3,5
Health and Social Service Delivery	3,5	3,2	3,1	3,8	4,6	5,2

Source: Russian Ministry of Economic Development. URL: <https://www.economy.gov.ru>.

- reasonable approach to cluster formation;
- availability of links for information exchange between cluster members;
- availability of qualified personnel;
- the possibility of using various sources of financing;
- presence on the territory of leading industry firms;
- availability of cooperative relations with related organizations.

In Russia, the formation of innovative clusters took place taking into account the experience of functioning technology platforms.

In 2012, the Ministry of Economic Development of Russia conducted a competitive selection of innovative clusters, on the basis of which 14 clusters received the right to state subsidies. These clusters should attract higher education institutions and research institutes to develop innovations to stimulate economic growth.

The benefits of such clusters include:

- providing access to financial, material and labor resources;
- presence of various connections;
- application of various forms of R&D outsourcing;
- simplification of interaction with global networks for creating products based on modern financial technologies.

In many countries, the improvement of the cluster operation is provided by the existing technological platforms. The interaction of clusters and technological platforms can be organized between different regions or different countries. The following criteria are used to evaluate the activities of innovation clusters:

- the existence of stable links between science and business;
- increase in the number of jobs;
- expanding the range and quality of products;
- increasing the volume of investments used;
- creation of new businesses;
- intensity of development of new technologies [5].

Many parameters of the functioning of clusters depend on the participation of technological platforms, subject to the coordination of their strategic directions of development. The interaction of technological platforms and clusters is provided by:

- the introduction of representatives of the management bodies of technological platforms into the organizational structures of clusters;
- opening representations of technological platforms in clusters;
- coordination of the topics of potential scientific research proposed by technology platforms with clusters;
- formation of a single expert community;
- conducting a special audit by technological platforms to identify the potential of innovative projects in clusters.

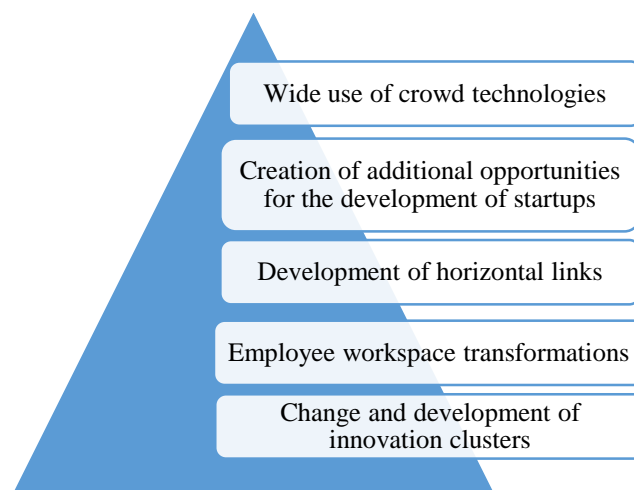
Combining the interests of the state, companies, and science into a single program for the development of the country's economy makes it possible to create integrated innovative structures in digital transformation. To implement this direction, it is necessary:

- concentration of strategic knowledge and competencies;
- interaction on parity terms of interest of state bodies and innovative companies conducting research;
- use of tax incentives to support innovative companies;
- acceleration of the process of commercialization of the results of scientific research in finished products.

The state support has the most significant impact at the stage of formation of the cluster, which after a certain time becomes a self-financing organization, the state support of which is not provided.

In innovation clusters, it becomes possible to realize the synergistic potential of individual companies, thereby contributing to the growth of the competitiveness of regions. To a large extent, the reliability of innovative projects is determined by the participation of research, development and educational institutions.

The trends that have emerged in financial relations in the digital economy imply (*Fig. 3*):



- change and development of innovation clusters;
- transformation of the workspace of employees, the possibility of using different locations;
- widespread use of crowd technologies in the form of crowdfunding, crowdsourcing, etc. [6];
- development of horizontal links leading to a reduction in transaction costs for business entities [7];
- creation of additional opportunities for the development of start-ups within the framework of innovation clusters [8].

An unreasonable approach to changing financial relations can lead to inefficient investment management, which becomes an obstacle to growth in the selected territory. Public and private investments are directed to territories that are critical for the future development of the country's economy. The need for renewed infrastructure in a certain area serves as the basis for creating the conditions necessary for investing and accommodating proposed investments [9].

The quality of investment management in a territory correlates with the results of economic growth in that region.

Investment strategies should be realistic, results-oriented, maximizing the potential for long-term growth [10].

In the territories of advanced socio-economic development in the Russian Federation (hereinafter referred to as TASED), investment should be carried out subject to ensuring complementarity in the integrated development strategies of the region, which provides for a combination of several priority areas in their synchronization during digital transformations³.

In TASED⁴ zones, an important task is to develop methods and mechanisms for harmonizing the interests and social responsibility of local communities involved in the implementation of projects and TASED participants. When implementing projects in such economic zones, it is necessary to take into account:

- the existence of specific commitments to promote and facilitate the direction of investment in the sustainable development of the region (external investment promotion schemes);
- the degree to which government commitments are synchronized with those of investors and promote responsible investment;
- ensuring an appropriate level of balance between environmental protection obligations and space for industrial development;
- stimulation of investments focused on the sustainable development of the region;
- regional investment agreements, new forms of investment partnership.

The developed concept makes it possible to put into practice the system of regional management of investment projects in the implementation of the innovative technological program of Russia until 2035.

Concentration of financial resources of the state and business on the development of investment projects creates conditions for attracting investments in their further development.

³ Federal Law No. 473-FL dated December 29, 2014 "On Territories of Advanced Socio-Economic Development in the Russian Federation". URL: <http://base.garant.ru/70831204>.

⁴ Decree of the Government of the Russian Federation of June 22, 2015 No. 614 "On the specifics of creating territories of advanced socio-economic development in the territories of single-industry municipalities of the Russian Federation (single-industry towns)". URL: <https://base.garant.ru/71107924>;

TRANSFORMATIONS IN FINANCIAL RELATIONS IN THE MEDIUM TERM.

In the medium-term economic policy for 2022 and for the planned period of 2023 and 2024. it is planned to orient the economy towards ensuring a stable and predictable economic environment and accelerating structural changes.

To solve these problems, an integrated approach is applied, including to ensure the growth of incomes of citizens, assistance in the further development of the sector of small and medium-sized businesses (hereinafter referred to as SMEs). *The most important changes in the planned areas of tax policy* are the reduction of direct taxes on the labor of SME companies, in particular, it is planned to reduce the rate of insurance premiums for small and medium-sized businesses to 15% (with the current rate of 30%). In terms of this, this corresponds to a decrease in the tax burden on labor taxes by 30%, due to which the total tax burden on value added will be reduced by 11%. Due to the reduction of the tax burden, the released financial resources can be directed by SMEs to the development of their activities. In addition, this creates favorable conditions for ensuring transparent business conduct by these companies, since, according to analytical estimates, the volume of “gray” salaries in the SME sector can reach 5 trillion rubles a year.

The next activity of SME companies will be the expansion of the scope of using the patent system of taxation for types of entrepreneurial activities in which a single tax on imputed income was previously applied. The regions have the right to extend the tax holidays for newly registered individual entrepreneurs in the form of a zero rate until 2024.

For a more active implementation of digital transformations, tax incentives are provided for high-tech companies, including a reduction in the corporate income tax rate to 3% while reducing the insurance premium rate to 7.6% (with the current rate of 14%).

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